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*Inaugural dissertation*  
*on*  
*Cynanche Trachealis*  
*by Littleton G. Coleman*

*admitted March 10th 1821*

(Symeon Jordan)

Incipit Evangelium

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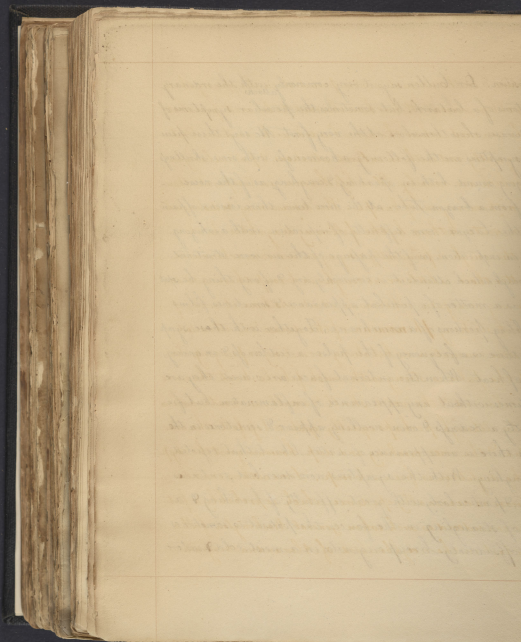
## *Cynanche Trachealis*

This disease has various appellations applied to it by different authors. It has been called suffocatio stridula, Angina Polyposa, the popular name is Croup or Hives, the latter is a corruption of the word heaves. Unquestionably the best nomenclological title is Trachitis, it very manifestly designates the nature of the complaint & gives uniformity to medical nomenclature & corresponds with Pleuritis, Gastritis & all of the other names applied to inflammatory affections. It is considered a disease of modern date. Dr Home of Edinburgh is considered the first who described the disease, he was the professor of Materia Medica in the university of Edinburgh & the cotemporary of Kullen. Cynanche Trachealis is for the most part confined to early life, occurring generally between the first & fifth year, it sometimes attacks infants in the month & also adult subjects, such cases must be considered anomalous deviations from the common course & nature of the complaint. It appears in some instances to belong to families. It is alledged by some that Croup is propagated by contagion, but there is no good reason for such a

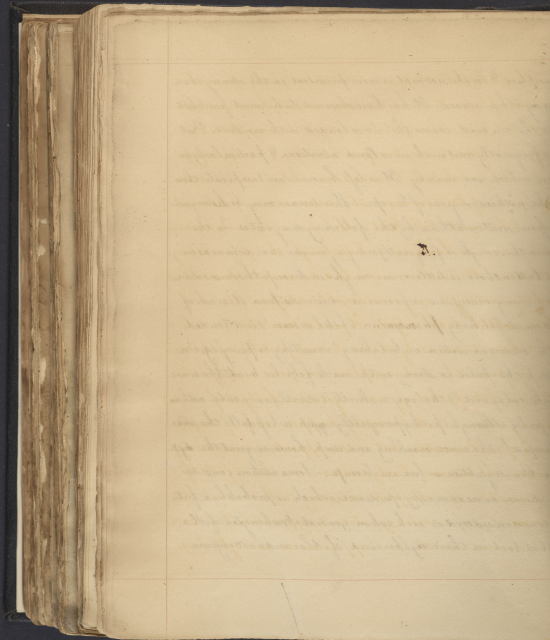




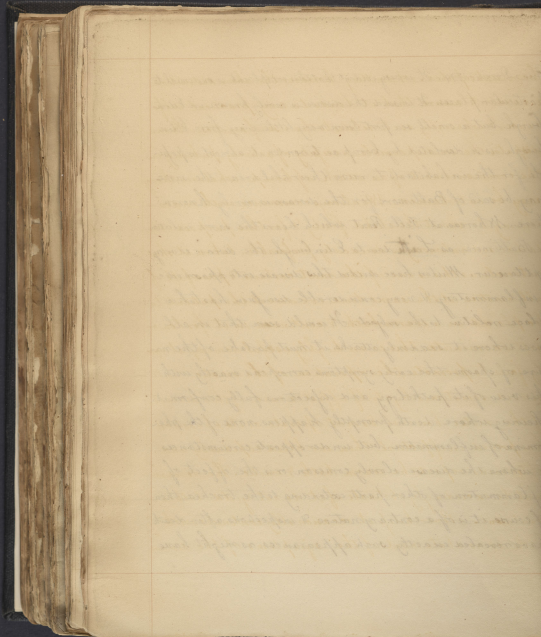
supposition. Dr Cullen says it very commonly with the ordinary  
symptoms of a catarrh, but sometimes the peculiar <sup>attacks</sup> symptoms of  
the disease show themselves at the very first. He says these pecu-  
liar symptoms are the following. a hoarseness, with some shrilling  
& ringing sound, both in speaking & coughing, as if the noise  
came from a brazen tube. at the same times, there is sense of pain  
about the Larynx, some difficulty of respiration, with a whoizing  
sound in inspiration, as if the passage of the air were straitened.  
the cough which attends it is commonly dry & if any thing be spit  
up it is a matter of a purulent appearance & sometimes films  
resembling portions of a membrane, Together with these symp-  
toms, there is a frequency of the pulse, a restlessness & an uneasy  
sense of heat. When the internal fauces are viewed, they are  
sometimes without any appearance of inflammation, but fre-  
quently a redness & even swelling appear & sometimes in the  
fauces there is an appearance of matter like to that rejected  
by coughing. With the symptoms now described, continues  
Cullen, & particularly with great difficulty of breathing & a  
sense of strangling in the fauces, the patient is sometimes  
taken off suddenly, Group originates in a moist, cold & austere



atmosphere & on this account is more prevalent in the spring than in any other season. It has been observed to be most prevalent near the sea coast, where the air is loaded with moisture. But it is frequently met with in inland situations, & particularly in those which are marshy. It is less known in temperate than in the northern regions of Europe. This disease may be distinguished from Acute Asthma by the following diagnostics. In the former the cough is frequently ringing in our ears, whereas in the latter there is little or no cough. in Croup there is seldom or ever any remission, whereas in Acute Asthma it is one of the most striking phenomena of the disease & is attended with some evacuation as belching vomiting or purging. In Croup the pulse is strong with much febrile heat the urine high coloured & the voice shrill & small, in acute asthma the pulse although perhaps equally quick is less full, the urine is limpid & the voice croaking and deep. however great the dyspnea the deglutition is free in Croup. Some authors consider the disease as occasionally epidemic, which is probably a fact. It was considered as such, when General Washington fell a victim to it in the neighbourhood of Alexandria Virginia.



Anno Domini 1799. It is very evident that this complaint is endemial to particular places. It is said the disease is rarely known in Edinburgh but a small sea port town very little way from Edinburgh is so desolated by hroup as to render it almost impossible for the inhabitants to raise their children. the same may be said of Baltimore for the disease is rarely known there. Whereas at Fells Point which bears the same relation to Baltimore as Lith does to Edinburgh, the disease is very apt to occur. Writers have divided this disease into spasmodic & inflammatory & very considerable discussion has taken place relative to the subject. It would seem that in all cases where it suddenly attacks it must partake of the nature of spasm. the early symptoms correspond exactly with this view of its pathology and dissections fully confirm it. shewing where death promptly happens none of the phenomena of inflammation. but under opposite circumstances or where the disease slowly comes on, or is the effect of inflammation of other parts extending to the trachea, then of course it is of a contrary nature & inspections after death have revealed exactly such appearances as might have



been anticipated. Admitting however the above distinction, we are not aware that it leads to any practical difference, & especially as it relates to the use of emetics. No one disputes the indispensable necessity of actively puking in the commencement of an attack of group whatever theory may be entertained. We always commence with endeavouring to vomit the child freely & for this purpose the tartarised antimony is decidedly preferable, taken at short intervals, as this is one of the most certain & powerful of all emetics, at the same time we direct the patient to be placed in a warm bath & continued in it for ten or fifteen minutes, this is an highly useful remedy, it rarely fails to promote the operation of the emetic & will indeed sometimes by itself effect a cure of this disease, if the emetic however do not operate or its operation has proved ineffectual, then we bleed copiously and afterwards repeat the warm bath & emetic. The disease must be exceedingly obstinate if it do not yield to this treatment. Nevertheless it occasionally continues with little or no abatement of the symptoms of the disease.





in despite of the remedies employed. Under these circumstances  
we resort to topical bleeding either by leeches or cups & after the  
inflammation has subsided, we apply a blister or sinapisms  
to the extremities or from one ear to the other. If the preceding  
remedies fail or if the symptoms are so alarming as to require it,  
we should bleed ad deliquium animi. When pushed to this ex-  
tent venesection is almost uniformly successful. The moment  
syncope is produced by venesection the cough hoarseness  
impeded respiration & fever all totally disappear, the disease  
being thus broken, which is always shown by the removal of  
the preceding symptoms & still more by the restoration of  
the susceptibility of the system to the operation of remedies.  
We administer Calomel not in small & separate doses as is  
generally recommended, but in the largest possible dose  
in order that it may speedily & actively purge, in this stage of  
the disease evacuations from the alimentary canal carry off the lingering symptoms  
of disease obviate relapses & confirm a convalescence. But if cough hoarseness tight-  
ness of the chest & difficult breathing exist or remain we use the Seneca as an ex-  
pectorant. It is in extinguishing the remains of bronch that Seneca displays its best  
properties. The practice just mentioned is adapted chiefly to the early or

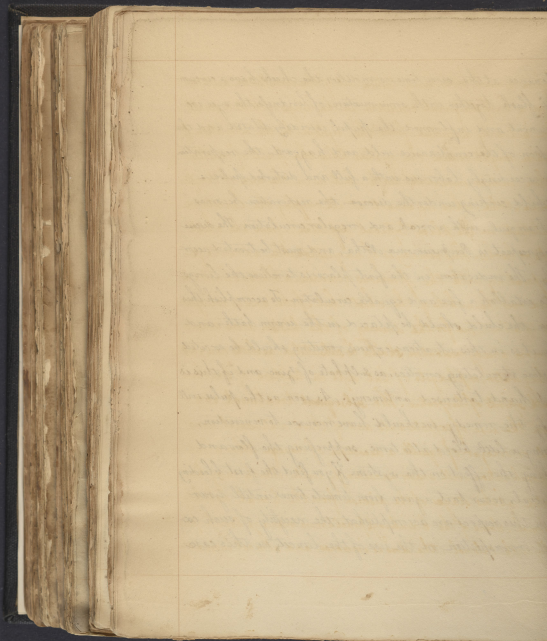
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forming stage of croup. At this period the disease is yet confined to the trachea and consists either in a spasmodic constriction of the tube, or in an inflammatory disease of its lining membranes. But the disease being suffered to continue for eight or ten hours and sometimes even less time, it extends to the bronchia and into the very substance of the lungs. A vast secretion of mucus or phlegm and an engorged or suffocated state of the lungs now take place precisely as in Peripneumonia Asthma. the symptoms at this critical juncture are different from those of the first stages. In the commencement of an attack of croup, the voice is hoarse the cough is hard, dry and not inaptly compared to the sharp sound of harking or to the crowing of a young chicken. at the same time there is more or less of fever, a considerable degree of anxiety and restlessness and an undecipherable wretchedness. the child will not remain long in one posture and cannot be completely tranquilized, he whines, cries and frets and seems to be exceedingly uneasy without suffering much positive pain. but in the following and more advanced stages, all of those symptoms exist, which indicate an interrupted circulation in the lungs - these organs loaded and oppressed are unable to perform their functions the

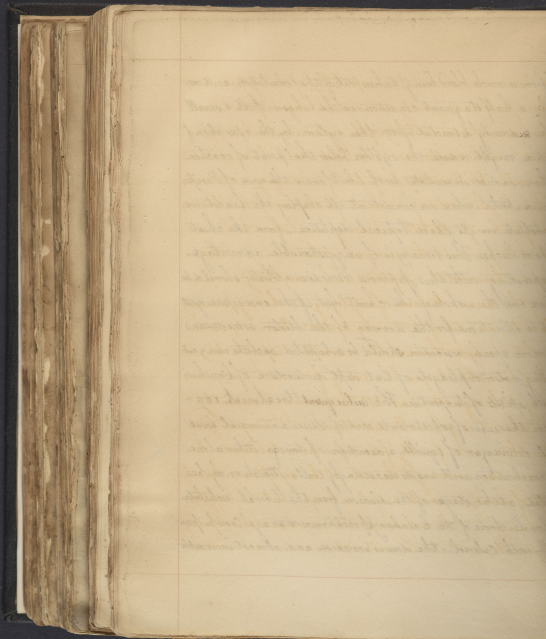
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countenance at the same time is mottled, the cheeks have a circum-  
scribed flush together with some mixture of lividness, the eyes are  
prominent and inflamed, the pupil is widely dilated and the  
expression of the countenance wild and haggard, the respiration  
is now exceedingly laborious, with a full and disturbed pulse.

The child sinking under the disease, the respiration becomes  
more tranquil, with a weak and irregular circulation. The disease  
in every respect is *Peripneumonia Aetha*, and must be treated ac-  
cordingly. The indication in the first place is to relieve the lungs  
and to establish a free and equable circulation. To accomplish this  
purpose, the child should be placed in the warm bath, and  
while it is in this situation, copious vomiting should be excited  
by active stimulating emetics, as Sulphate of Zinc and if this is  
not at hand, tartarised antimony. As soon as the pulse will  
justify the remedy, we should have recourse to venesection,  
drawing a little blood at a time, suppressing the flow and  
watching the effect on the system. If you find the first bleeding  
beneficial, recur to it again from time to time, untill your  
views in this respect are accomplished. the necessity of such ex-  
treme circumspection in the use of the lancet in this case

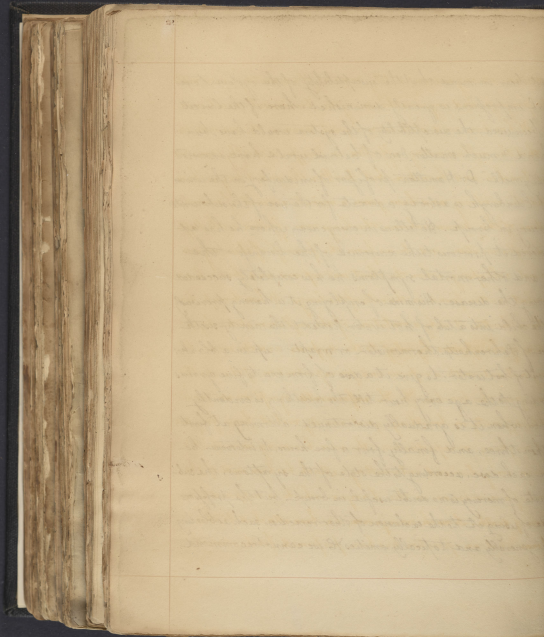


arises from so much blood being taken out of the circulation and con-  
fined in a half stagnant condition in the lungs so that a small  
portion suddenly detracted from the system, by the operation of  
venesection might reduce the system below the point of reaction  
and then induce immediate death, but as in the case of Peri-  
pneumonia Altha. where we cannot at all employ the lancet we  
may substitute in its place topical depletion from the chest  
by cups or leeches. This remedy is of unquestionable advantage.  
As cooperating with the previous remedies, a blister should be  
applied over the whole of the chest, but if the case is so urgent  
as not to allow time for the drawing of the blister, some means  
of a more speedy vesication should be substituted, as cloths rung out  
of boiling water, or pledgets of lint dept in tincture of Canthari-  
des with spirits of turpentine. The subsequent treatment con-  
sists in the use of expectorants and of these antimonial wine  
tymel or vinegar of squills, a decoction of Seneega either alone  
or in combination will answer exceedingly well. Much may be  
expected at this stage of the disease from the liberal exhibition  
of Calomel. Some of the Edinburgh practitioners manage Croup prin-  
cipally with Calomel, the dose is immense and almost incredible

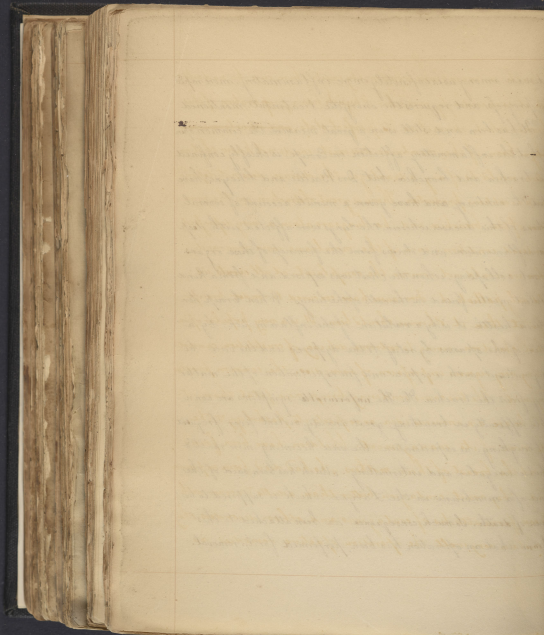




we must bear in mind that the susceptibility of the system to reme-  
dial impressions is greatly diminished, here if the lancet  
had been used, the susceptibility of the system would have been  
awakened & much smaller doses of calomel would have answered  
equally well. Dr Hamilton professor of midwifery in the univer-  
sity of Edinburgh is a strong advocate for the use of the submuriate  
of mercury in croup. He tells us in every case, where he has ad-  
ministered it previous to the occurrence of the lividness of the  
lips, and other mortal symptoms, he has completely succeeded  
in curing the disease. His mode of employing it is, having previously  
put the child into a tub of hot water heated to the ninety sixth  
degree of Fahrenheit's thermometer or wrapt up in a blanket  
ring out of hot water, to give it a dose of from one to five grains  
according to the age every hour till the breathing is evidently  
relieved, when it is gradually discontinued, allowing at first  
twelve or three, and finally four or five hours, to intervene be-  
tween each dose, according to the state of the symptoms, the sub-  
muriate of mercury is no doubt useful in croup, but the professor's  
mode of using it, to the exclusion of other remedies, such as bleeding  
both generally and topically, emetics &c. we cannot recommend



The disease among us is infinitely more inflammatory, more rapid in its progress, and requires the energetic treatment mentioned above. It has been and still is in a great measure the common opinion, that the inflammatory affection in Croup, is chiefly confined to the trachea and bronchia. but Drs Baillie and Cheyne have asserted the contrary, and have given a minute account of several dissections of this disease wherein the lungs were affected with deep seated inflammation, and obvious from the firmness of these organs from not collapsing, when the chest was exposed, and from a kind of purulent matter found in the cells of the lungs. When Croup terminates in health, it is by a resolution of the inflammation, by a cessation of the spasms, by relief to the dyspnoea and the voice becoming natural, with a copious and free expectoration of the matter exuding from the trachea &c. The unfavourable symptoms are considerable difficulty in breathing, great anxiety, violent fever, frequent fits of coughing, no expectoration, the voice becoming more shrill & the pulse irregular and intermitting. Much has been said of the existence of a membrane in the Larynx, which is supposed to be the cause of death. So much consequence has been attached to this membrane, that an operation has been performed for its removal.



That such a membrane occasionally exists there can be no doubt though it is exceedingly rare. Dr. Physick has a preparation of this membrane which shows it in its perfect state, ~~and it is extremely~~ slimy. Even if the membrane does exist, we do not know that an operation would be of any advantage, the disease does not depend on this adventitious production. There is great obstruction in the ramifications of the bronchiae and the lungs are in a very depressed & disordered condition, even if the membrane were removed therefore we would not remove the complaint, at all events we should only palliate it. Two causes have concurred to render croup more fatal than it otherwise should be. It is a very popular opinion that children, owing to extreme delicacy of constitution cannot bear any very vigorous impression of remedies, the common practice is very inert. The two causes rendering croup more fatal than it should be are an erroneous idea as respects its pathology & the feeble mode of its management. Children have been found alive at the breast of their mothers who had died from exposure to cold, they resist contagion better than adults & recover with greater ease from attacks of contagious and other disorders, they also sustain very well the operation of active remedies as



vomiting, purging, sweating, blisters & the loss of blood. During the growth of the body, the proportion of the fluids to that of the solids is evidently greater than when the system has attained its full size. This fullness of the blood vessels renders children particularly liable to inflammatory attacks & nearly all of their complaints partake of this character & hence they are often to be blest

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